DOCUMENT RESUME

ED 079 916 EC 052 344

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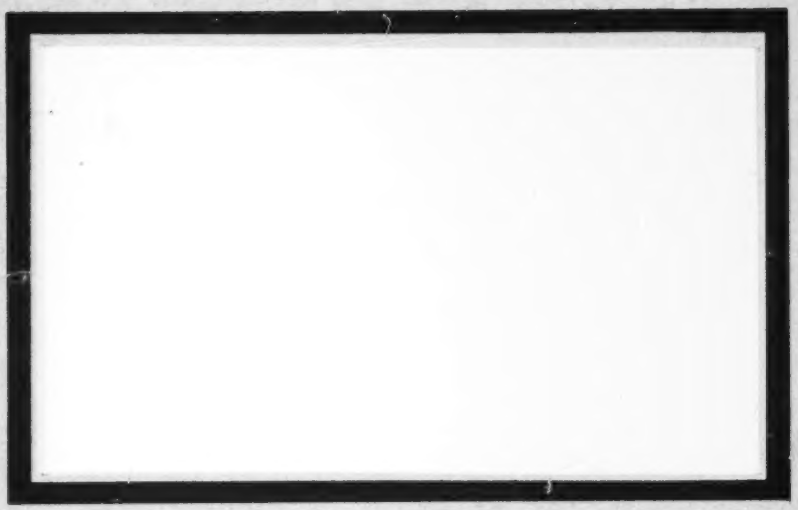
TITLE	Evaluation of Instructional Materials as a Function of Material Complexity and Teacher Manual Format.
INSTITUTION	Texas Univ., Austin. Special Education Instructional Materials Center.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
PUB DATE	71
GRANT	OEG-4-6-062267-1551(607)
NOTE	10p.; Working Paper No. 10
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Evaluation; *Exceptional Child Research; Handicapped Children; *Instructional Materials; Material Development; *Teacher Education; *Teaching Guides

ABSTRACT

In a study to evaluate instructional material as a function of teacher manual format and material complexity, 52 preservice special education teachers, 19 to 24 years of age, positively rated simple material when it was accompanied by an illustrated poorly organized manual. Inclusion of a well organized, illustrated manual eliminated differences as a function of complexity. The findings may reflect inexperience of the subject population in evaluating materials. Experienced teachers might be expected to make more critical judgments according to demands of the teaching situation. (For related materials, please see EC 052 343). (Author/MC)

ED 079916



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EVALUATION OF INSTRUCTIONAL MATERIAL AS A FUNCTION OF MATERIAL COMPLEXITY AND TEACHER MANUAL FORMAT[1,2]

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Working Paper No. 10

1971

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[1]Preparation of this paper was supported in part by Grant OEG-4-6-062267-1551 (607) from the U. S. Office of Education, Department of Health, Education and Welfare, Washington, D. C. 20201.

[2]The authors express their sincere appreciation to Margaret Booker and Linda Smith for their assistance in material selection. The assistance of Carol McIntosh in preparing materials for the experiment is also gratefully acknowledged.

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EVALUATION OF INSTRUCTIONAL MATERIAL AS A FUNCTION OF MATERIAL COMPLEXITY AND TEACHER MANUAL FORMAT[1]

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Abstract

Evaluation of instructional material was studied as a function of teacher manual format and material complexity. Results from assessments by 52 teachers-in-training indicated more positive ratings of simple than complex material. This influence was only evident, however, when the material was accompanied by an unillustrated, poorly organized manual. Inclusion of an illustrated, well organized manual eliminated differences as a function of complexity. No main effects differences were evident between manual formats.

EVALUATION OF INSTRUCTIONAL MATERIAL AS A FUNCTION OF MATERIAL COMPLEXITY AND TEACHER MANUAL FORMAT[1]

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One of the persisting problems in Special Education has been the evaluation of instructional materials. Various models and approaches have been articulated which may promote a more organized and effective effort focusing on this task (e.g. Moss, 1968; McIntyre & Nelson, 1969; Drew & Martinson, 1971). Systematic approaches, however, remain primarily unimplemented on a broad scale basis. As a consequence, a major portion of instructional materials are being adopted or eliminated primarily on the basis of producers' statements as to what they will or will not accomplish.

Knowledge concerning factors which may influence evaluative judgement is a critical precedent to adoption of an evaluation model. It seems unlikely that feasibility will permit evaluation of a large number of items by a central agency. This leaves primarily the teacher - consumer, on an individual basis, to assess the worth of materials which are presented for review. Even if a model were implemented, which as a common

frame of reference would serve to reduce evaluation variability, this may account for only a small portion of the total variance. Other factors relative to the design characteristics of materials may be generating substantial variance which is unaccounted for. Evaluation in the absence of knowledge concerning the influence of these factors may be so unstable as to be rendered meaningless. This would seem to highlight the need for systematic investigation of generic characteristics of instructional material design which may influence evaluative assessment. The purpose of the present study was to explore the effects of two such design characteristics, teacher manual format and material complexity, on the evaluation of instructional material.

Method

Subjects

Subjects for this study were 52 undergraduate special education teachers-in-training. All were majors in Special Education who were currently enrolled in, or had just completed the introductory teacher-training course sequence at the University of Texas at Austin. The mean CA for the sample was 20.8 years with a range from 19 to 24 years.

Materials

Two pieces of instructional material were selected from the collection at the Special Education Instructional Materials Center at the University of Texas (UTSEIMC). One item was chosen as a complex material based on judgements by two curriculum specialists that its intended objectives and procedures demanded a thorough examination prior to use.[2] Similarly, the second material was selected as less complex on the basis of its intended objectives and procedures being judged obvious from cursory examination.

The commercially prepared teacher's manuals accompanying these materials were redesigned resulting in two versions of each. Experimental Form A of each manual was illustrated, typed double-spaced, employed indented paragraphs and clearly differentiated sections, and accentuated section headings with upper-case type, approximating bold face print. Experimental Form B was not illustrated, was typed single-spaced, did not make use of indented paragraphs or discrete sections, and was uniformly printed in lower-case type. The substantive content of the original teacher manuals was maintained in both Form A and B of the experimental manuals, thus holding constant the actual information available to subjects.

The evaluation instrument required subject's response to ten items relating to the material and the teacher's manual. Items were complete sentences designed specifically to explore the contribution of the teacher's manual to the perceived utility of the material. Subjects indicated the degree to which they were in agreement with each statement using a 1 to 6 scale (1 = low, 6 = high). All items were worded such that a rating indicating a high degree of agreement represented a positive assessment of the material and a low rating suggested a negative assessment.[3]

Procedure

Twenty-six subjects were randomly assigned to a group that received Form A of the teacher's manual. The remaining 26 subjects received Form B of the manual. Subjects in both groups examined both the simple and complex material. Sequence of presentation was randomly counterbalanced to control for possible order effects.

Subjects were individually brought to a minimal distraction room (Drew, 1969) where they were informed that the experimenter was conducting research on instructional materials. The first of the two materials was then presented with instructions to the subjects that they were to examine it for a five minute period while the experimenter was absent. When this interval had lapsed, the experimenter entered the room and removed the material. At that time the subject was presented the evaluation form and asked to complete it during a second five minute period. When the subject had completed this evaluation the second material was presented and the same procedure repeated.

Results and Discussion

The criterion measure for each subject was a total score obtained by summing each item rating across all ten items. This produced a score that indicated positive assessment as it approached 60 and less positive assessment as it approached 10. Table 1 summarizes mean scores by conditions.

Insert Table 1 about here

Data comparing performance as a function of teacher manual format were analyzed using a Mann-Whitney U test for large samples (Siegel, 1956). Results of this analysis indicated no significant differences in evaluation ratings as a function of teacher manual format.

Repeated measures comparisons as a function of material complexity were made using the Wilcoxon matched pairs signed ranks test (Siegel, 1956). Results of this analysis indicated significantly more positive evaluations of simple than complex material when Form B of the teacher manual was used ($P < .02$). Evaluations did not, however, differ significantly as a function

of material complexity when the Form A manual was used.

The absence of significant differences as a function of teacher manual format is of particular interest. Evaluative ratings by these subjects appear to be somewhat insensitive to rather radical manual organizational differences. The present data do not, however, indicate that manual format was totally without influence. Subject material assessment as a function of material complexity seemed to be related to manual organization. Subjects receiving Form B of the manual (unillustrated and "poorly organized") rated the simple material more positively than the complex material. Subjects receiving Form A of the manual (illustrated and "well organized") did not differentially rate the simple and complex materials. This result indicates that when objectives were not readily evident from the manual (Form B), a more positive rating was given the material that permitted purpose identification from cursory examination. These findings, in fact, are consistent with intuitive expectations in that subjects apparently utilized the well-organized, more attractive manual independent of actual material characteristics. However, availability of only a substandard teacher's manual served to focus attention towards the material, eliciting more discerning material evaluation.

These findings may to some degree reflect the relative inexperience in materials evaluation characterizing the subject population participating in this study. Experienced teachers might be expected to make more critical judgements of relevant material attributes in that the reality of the teaching situation demands incisive materials appraisal. Consequently future investigation assessing the effects of variation in teaching experience on material evaluation would appear worthwhile in the study of factors influencing materials selection.

References

Drew, C. J. Associative learning as a function of material associative strength and MA. American Journal of Mental Deficiency, 1969, 74, 369-372.

Drew, C. J., & Martinson, M. C. Educational methodology: An examination of Approach. Exceptional Children, 1971, (in press).

McIntyre, R. B., & Nelson, C. C. Empirical evaluation of instructional materials. Educational Technology, 1969, 9, 24-27.

Moss, M. H. Evaluation as a responsibility of the IMC network. Exceptional Children, 1968, 35, 303-306.

Siegel, S. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill, 1956.

Footnotes

[1]Preparation of this paper was supported in part by Grant OEG-4-6-062267-1551 (607) from the U. S. Office of Education, Department of Health, Education and Welfare, Washington, D. C. 20201.

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[3]The evaluation instrument is available upon request from the senior author.

Table 1

Mean Evaluation Scores by Teacher Manual Format and Material Complexity

Material Complexity	Manual Format	
	Form A	Form B
Simple	46.12	48.54
Complex	45.35	44.15